

ABSTRACT

A method and apparatus which comprises, as part of compiling source code into native code, identifying a source code block in the source code to optimize using register promotion, and optimizing the source code block using a register promotion transformation. Thereafter, compensation native code is generated to update those memory locations whose values were promoted using register promotion with the up-to-date values from registers associated with the memory locations. As a result native code corresponding to any existing source code exception handler associated with the source code block will have access to the up-to-date memory locations during program execution.